

REMARKS / ARGUMENTS

I. General Remarks and Disposition of the Claims

Applicants respectfully request consideration of the claims in light of the remarks contained herein.

At the time of the Office Action, claims 1-6, 8-13, 15-18, 20-23, and 29-36 were pending. Claims 1-6, 8-13, 15-18, 20-23, and 25-28 stand rejected. All the remarks herein are made in a good faith effort to advance the prosecution on the merits of this case.

II. Remarks Regarding New Claims 29-36

In Applicants' amendment, response to final office action, and request for continued examination filed October 31, 2007 (hereinafter the "RCE"), Applicants added claims 29-36. As the Examiner has not objected to or rejected these claims in the Office Action, Applicants assume that these claims are allowable. Furthermore, should the Examiner choose to reject these claims in the next office action, such rejection would introduce a new ground of rejection not necessitated by this response or by the submission of an information disclosure statement; therefore, such an office action may not be made final. *Manual of Patent Examining Procedure* (2007) (hereinafter "MPEP") § 706.07(a).

III. Remarks Regarding Rejections Under 35 U.S.C. § 102(b)

Claims 1, 6, 8, 13, 25, and 26 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,024,171 issued to Montgomery *et al.* (hereinafter "*Montgomery*"). With respect to this rejection, the Office Action states:

Montgomery *et al.* disclose producing gas from a coal seam comprising: drilling a vertical well 12 that intersects a seam 18; bi-wing fracturing the seam, ("opposing ... perforations" 38, 40; col. 5, line 28) below the fracture pressure, along a plane of maximum stress (col. 4, lines 65-68), and which minimizes the creation of near-wellbore stress via cavitation (col. 4, lines 46-47); eroding the seam via a hydrajel 34a, 34b; and performing additional fracturing after the below-fracture- pressure hydrajetting (col. 5, line 34).

Fracturing the seam along the plane of maximum stress is considered inherent since the Montgomery structure can perform the claimed method along any plane in the formation.

(Office Action at 2.) Applicants respectfully disagree. To form a basis for a § 102(b) rejection, a prior art reference or a combination of prior art references must disclose each and every

element in the claim. MPEP § 2131. Applicants respectfully submit that *Montgomery* does not disclose each and every element of independent claims 1 and 8.

Independent claim 1 recites the step of “**fracturing the coal seam using a hydrajetting tool** at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress.” Similarly, independent claim 8 recites the step of “**fracturing the coal seam** along the substantially vertical well bore **using a hydrajetting tool** at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress.” In contrast, *Montgomery* discloses a method whereby “two opposing vertical **perforations**” are formed by raising and lowering the hydrajet in the well bore. *See* col. 5, lines 24-26 (emphasis added). Such a method results in the **perforations** 38 and 40 shown in Figures 6 and 7 of *Montgomery*. As clearly illustrated by Figures 6 and 7, the perforations 38 and 40 are not fractures, but rather are merely perforations that extend only 0.5 to 3 well bore diameters into the formation. *See* col. 5, lines 29-30. This distinction is made even clearer by *Montgomery*’s disclosure of a subsequent fracturing step. *See* col. 5, lines 62-64. Indeed, nowhere does *Montgomery* disclose fracturing a coal seam using a hydrajetting tool, as recited in independent claims 1 and 8. Thus, *Montgomery* cannot anticipate these claims.

Furthermore, the Office Action cites col. 5, line 28 of *Montgomery* as disclosing the formation of bi-wing fractures. (Office Action at 2.) However, the cited portion of *Montgomery* actually discloses “two opposing vertical perforations.” *See* col. 5, line 28. Applicants respectfully submit that perforations should not be equated with fractures. Accordingly, this portion of *Montgomery* contains no disclosure of forming fractures using a hydrajetting tool.

Therefore, Applicants respectfully assert that independent claims 1 and 8 are not anticipated by *Montgomery*. Claims 25 and 26 were cancelled in the RCE. Claims 6 and 13 depend directly from independent claims 1 and 8, respectively, and therefore include all the elements of the independent claim from which they each depend. *See* 35 U.S.C. § 112 ¶ 4 (2004). Thus, claims 1, 6, 8, and 13 are allowable for at least the reasons cited above. Accordingly, Applicants respectfully request withdrawal of this rejection.

IV. Remarks Regarding Rejections Under 35 U.S.C. § 103(a)

A. Claims 1, 6, 8, 13, 25, and 26

Claims 1, 6, 8, 13, 25, and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Montgomery* in view of U.S. Patent No. 4,744,245 issued to White (hereinafter "*White*"). Claims 25 and 26 were cancelled in the RCE. Claims 6 and 13 depend directly from independent claims 1 and 8, respectively, and therefore include all the elements of the independent claim from which they each depend. *Id.* Thus, each of the claims rejected under 35 U.S.C. § 103(a) depends from a claim rejected under 35 U.S.C. § 102(b) as anticipated by *Montgomery*. As discussed above in Section III, *Montgomery* does not disclose or suggest "**fracturing the coal seam using a hydrajetting tool** at a pressure less than a fracture pressure of the subterranean formation-to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress," as recited in independent claim 1. Similarly, as discussed above in Section II, *Montgomery* does not disclose or suggest "**fracturing the coal seam** along the substantially vertical well bore **using a hydrajetting tool** at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress," as recited in independent claim 8. The Examiner merely relied on *White* for its alleged teaching of finding the plane of maximum stress of a subterranean formation. (Office Action at 3.) As such, the combination of *Montgomery* and *White* does not render obvious claims 1, 6, 8, and 13. MPEP § 2143 (reference or combination of references must teach or suggest each and every element of the claim in order to anticipate the claim). Accordingly, Applicants respectfully request withdrawal of this rejection.

B. Claims 2, 3, 9, and 10

Claims 2, 3, 9, and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Montgomery* in view of U.S. Patent No. 5,765,642 issued to Surjaatmadja (hereinafter "*Surjaatmadja*"). Claims 2, 3, 9, and 10 are dependent from independent claim 1 or 8 and therefore include all the elements of independent claim from which they each depend. *See* 35 U.S.C. § 112 ¶ 4 (2004). Thus, each of the claims rejected under 35 U.S.C. § 103(a) depends from a claim rejected under 35 U.S.C. § 102(b) as anticipated by *Montgomery*. As discussed above in Section III, *Montgomery* does not disclose or suggest "**fracturing the coal seam using a**

hydrajetting tool at a pressure less than a fracture pressure of the subterranean formation—to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress,” as recited in independent claim 1. Similarly, as discussed above in Section II, *Montgomery* does not disclose or suggest “*fracturing the coal seam* along the substantially vertical well bore *using a hydrajetting tool* at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress,” as recited in independent claim 8. The Examiner merely relies on *Surjaatmadja* for the teaching of “using a hydrajetting tool . . . to perforate casing and drilling at least one horizontal well bore . . . into the coal seam.” (Office Action at 4.) As such, the combination of *Montgomery* and *Surjaatmadja* does not render obvious claims 2, 3, 9, and 10. MPEP § 2143. Accordingly, Applicants respectfully request withdrawal of this rejection.

C. Claims 4, 5, 11, and 12

Claims 4, 5, 11, and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Montgomery* in view of U.S. Patent 6,280,000 issued to Zupanick (hereinafter “*Zupanick*”). Claims 4, 5, 11, and 12 are dependent from independent claims 1 or 8 and therefore include all the elements of the independent claim from which they each depend. *See* 35 U.S.C. § 112 ¶ 4 (2004). Thus, each of the claims rejected under 35 U.S.C. § 103(a) depends from a claim rejected under 35 U.S.C. § 102(b) as anticipated by *Montgomery*. As discussed above in Section III, *Montgomery* does not disclose or suggest “*fracturing the coal seam using a hydrajetting tool* at a pressure less than a fracture pressure of the subterranean formation—to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress,” as recited in independent claim 1. Similarly, as discussed above in Section II, *Montgomery* does not disclose or suggest “*fracturing the coal seam* along the substantially vertical well bore *using a hydrajetting tool* at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress,” as recited in independent claim 8. The Examiner has merely relied on *Zupanick* for the teaching of “removing water . . . and logging . . . a coal seam . . . in a horizontal well bore.” (Office Action at 5.) As such, the combination of *Montgomery* and *Zupanick* does

not render obvious claims 4, 5, 11, and 12. MPEP § 2143. Accordingly, Applicants respectfully request withdrawal of this rejection.

D. Claims 15-18, 20-23, 27, and 28

Claims 15-18, 20-23, 27, and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Montgomery* in view of *Surjaatmadja* and *Zupanick*. Claims 27 and 28 were cancelled in the RCE. Claims 16-18 and 21-23 depend directly from independent claims 15 and 20, respectively, and therefore include all the elements of the independent claim from which they each depend. See 35 U.S.C. § 112 ¶ 4 (2004). As discussed above in Section III with respect to independent claims 1 and 8, *Montgomery* does not disclose or suggest “**fracturing the coal seam using a hydrajetting tool** at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress,” as recited in independent claim 15. Similarly, *Montgomery* does not disclose or suggest “**fracturing the coal seam** along the substantially vertical well bore **using a hydrajetting tool** at a pressure less than a fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress,” as recited in independent claim 20. *Surjaatmadja* and *Zupanick* do not remedy this deficiency of *Montgomery*. Rather, the Examiner has merely relied on *Surjaatmadja* for the teaching of “using a hydrajetting tool . . . to perforate casing and drilling at least one horizontal well bore . . . into the coal seam” and on *Zupanick* for the teaching of “removing water . . . and logging . . . a coal seam . . . in a horizontal well bore.” (Office Action at 4-5.) As such, the combination of *Montgomery*, *Surjaatmadja* and *Zupanick* does not render obvious claims 15-18 and 20-23. MPEP § 2143. Accordingly, Applicants respectfully request withdrawal of this rejection.

V. No Waiver

All of Applicants’ arguments and amendments are without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the cited references. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner’s additional statements. The example distinctions discussed by Applicants are sufficient to overcome the rejections in the Office Action.

SUMMARY

In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections. Applicants further submit that the application is now in condition for allowance, and earnestly solicits timely notice of the same. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

Applicants believe there are no fees due in association with the filing of this response. Should the Commissioner deem that any fees are due, including any fees for extensions of time, Applicant respectfully requests that the Commissioner accept this as a Petition Therefor, and direct that any additional fees be charged to Baker Botts L.L.P. Deposit Account No. 02-0383, Order Number 063718.0387.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Corey S. Tumey', written over a horizontal line.

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